



Syntaxin 4 (m2): 293T Lysate: sc-127624

BACKGROUND

Correct vesicular transport is essential to the survival of eukaryotic cells. This process is determined by specific pairing of vesicle-associated SNAREs (v-SNAREs) with those on the target membrane (t-SNAREs). This complex then recruits soluble NSF attachment proteins (SNAPs) and N-ethylmaleimide-sensitive factor (NSF) to form the highly stable SNAP receptor (SNARE) complex. The formation of a SNARE complex pulls the vesicle and target membrane together and may provide the energy to drive fusion of the lipid bilayers. Syntaxins, a family of proteins involved in the fusion of synaptic vesicles with the plasma membrane, display broad tissue distribution and contain carboxy-terminal hydrophobic domains that direct themselves to their respective intracellular compartments. Syntaxin 4 is crucial for normal Insulin-stimulated glucose uptake in skeletal muscle and decreases in Syntaxin 4 protein levels result in reduction of whole-body Insulin-stimulated glucose metabolism.

REFERENCES

1. Lowe, S.L., Peter, F., Subramaniam, V.N., Wong, S.H., and Hong, W. 1997. A SNARE involved in protein transport through the Golgi apparatus. *Nature* 389: 881-884.
2. Nagahama, M., Orci, L., Ravazzola, M., Amherdt, M., Lacomis, L., Tempst, P., Rothman, J.E., and Sollner, T.H. 1996. A v-SNARE implicated in intra-Golgi transport. *J. Cell Biol.* 133: 507-516.
3. Bentz, J. and Mittal, A. 2000. Deployment of membrane fusion protein domains during fusion. *Cell Biol. Int.* 24: 819-838.
4. Bennett, M.K., Garcia-Ararras, J.E., Elferink, L.A., Peterson, K., Fleming, A.M., Hazuka, C.D., and Scheller, R.H. 1993. The syntaxin family of vesicular transport receptors. *Cell* 74: 863-873.
5. Watson, R.T. and Pessin, J.E. 2001. Transmembrane domain length determines intracellular membrane compartment localization of syntaxins 3, 4, and 5. *Am. J. Physiol. Cell Physiol.* 281: C215-223.
6. Yang, C., Coker, K.J., Kim, J.K., Mora, S., Thurmond, D.C., Davis, A.C., Yang, B., Williamson, R.A., Shulman, G.I., and Pessin, J.E. 2001. Syntaxin 4 heterozygous knockout mice develop muscle insulin resistance. *J. Clin. Invest.* 107: 1311-1318.

CHROMOSOMAL LOCATION

Genetic locus: Stx4a (mouse) mapping to 7 F3.

PRODUCT

Syntaxin 4 (m2): 293T Lysate represents a lysate of mouse Syntaxin 4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Syntaxin 4 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Syntaxin 4 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.